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ABSTRACT

A study was conducted to determine the effect of a play, a curriculum kit on disability, and a speaker confined to a wheelchair on students' attitudes toward the disabled. Subjects were 150 male and 174 female secondary school students from seven Australian schools. The play presented common myths and fallacies about the disabled and then debunked them. The curriculum kit presented factual information on disabilities and case histories of disabled persons coping with their lives. An experimental pretest and posttest design was used to determine attitudes toward the disabled. The results indicated that the play was very effective in improving nondisabled children's attitudes toward the physically disabled. The curriculum kit lessons improved the children's attitudes but not to a statistically significant extent. The speaker also has a positive but negligible effect on attitudes. In addition, the results indicated a significant interaction between the play and the curriculum kit, with the kit having reduced the effectiveness of the play. The pretest indicated that females had a more positive attitude toward the disabled than did males, while the posttest indicated that females also improved their attitudes more than the males. (HTH)

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RESEARCH REPORT 2/82.

CHANGING CHILDREN'S ATTITUDES TOWARD THE PHYSICALLY DISABLED

WILLIAM S. McKERRACHER

1982

CURRICULUM SERVICES UNIT

EDUCATION DEPARTMENT OF VICTORIA.

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FOREWORD

The work reported here was initiated by the Bouverie Street Theatre-in Education team from the Drama Resources Centre in the Education Department of Victoria. Influenced by 1981 being the United Nations International Year of Disabled Persons and by their belief in the importance of theatre as a vehicle for learning, they developed a program the objective of which was to improve the attitudes of school children toward t physically disabled. The program involved presentation of an adapted version of Roy Kift's play "Stronger than Superman", use of a curriculum kit on disability and school visits by a disabled speaker.

This study placed the work of the Theatre-in-Education team in the context of previous work on changing children's attitudes toward the physically disabled. It also evaluated the relative effectiveness of the three elements in the program in achieving their objective.

William S. McKerracher

Curriculum Services Unit, 1982.

TABLE OF CONTENTS

		PAGE
Foreword		(i)
List of Tables		(iii)
Synopsis		(iv)
Acknowledgements		(v)
1.0	Introduction	1
	1.1 Attitudes Toward the Disabled	1
	1.2 Attitude Change	4
	1.3 Hypotheses	10
2.0	Method	11
	2.1 Subjects	11
	2.2 Instrument	12
	2.3 Design	13
	2.4 Materials	14
	2.5 Procedures	15
	2.6 Statistical Analysis	17
3.0	Results	18
4.0	Discussion	23
	Appendix I Attitude Toward Disabled Persons scale	28
	Appendix II Analysis of variance of pretest scores by sex	29
	Appendix III Analysis of variance of posttest scores by play, kit, speaker and sex	30
	Bibliography	31

LIST OF TABLES

TABLE		PAGE
1.	Mean changes between the pretest and posttest means on the ATDP.	18
2.	Analysis of covariance of the differences between pretest and posttest scores by play, kit, speaker and sex with the pretest as covariate.	20
3.	Differences between the pretest and posttest means on the ATDP after pooling the speaker and no-speaker results.	22

SYNOPSIS

Numerous investigators have substantiated the assumption that physically disabled individuals are often viewed less favourably than their non-disabled counterparts. To overcome this discrimination there is a need to improve community attitudes to the disabled and a particularly important population to influence is school children.

This study sought to determine the effect of a play, curriculum kit and disabled speaker on children's attitudes toward the disabled. It was found that all three interventions had a positive effect, but only that of the play reached statistical significance. There was also a significant interaction between the play and curriculum kit such that the play alone was more effective in changing attitudes than when combined with the kit.

The findings are interpreted in the light of previous research on changing attitudes toward the disabled. It is considered that the play has an emotional impact in relation to disabled people whereas the major effect of the kit may be to increase knowledge of the concept of disability. Possible ways to increase the effectiveness of the disabled speaker are presented.

The differential effect of sex was investigated both before and after the experimental interventions. The results indicated that females began with more positive attitudes toward the disabled, and also that they responded more to the attempts to improve attitudes.

The implications of the study for practice are indicated.

ACKNOWLEDGEMENTS

I would like to acknowledge the helpful advice of Mr. I. Margitta of the Curriculum Services Unit throughout the duration of this study.

I would also like to thank the school principals, teachers and students who willingly co-operated in the project.

1.0 INTRODUCTION

1.1 ATTITUDES TOWARD THE DISABLED

Attitudes toward disabled persons have been the focus of much research, with numerous investigators substantiating the assumption that physically disabled individuals are often viewed less favourably than their non-disabled counterparts. Reviews of some of this research have been provided by Kutner, 1971 and McDaniel, 1976. Although the relationship between attitudes and behaviour has been shown to be complex and that attitudes are only partial determinants of behaviour along with norms, contexts and expectations (Calder and Ross, 1973), it seems clear that society's rejecting attitudes results in the restricted vocational and social opportunities available to the disabled. There is therefore a need to improve community attitudes to the disabled and a particularly important population to influence is children who are the decision makers of tomorrow. In addition the attitudes of the peer group toward the child with a physical disability are of particular importance in deciding whether to integrate the disabled child in an ordinary school (O'Moore, 1980).

The basis of negative attitudes toward the physically disabled is not well understood. One theory posits that the disabled are discriminated against because they are viewed as being different from society's prevailing norm. That is, attitudes

toward the physically disabled may be part of a general prejudice against people who are different in any way. Support for this position has come from a number of sources. Chester (1965) found that individuals who express ethnocentric attitudes toward racial groups are likely to express such attitudes toward religious and national groups, toward social class divisions and the physically disabled. Yuker (1965) from his work on measuring attitudes toward the disabled concluded that "In many respects prejudices toward the disabled are similar to prejudices toward other groups. Thus the person who is prejudiced will believe that all disabled persons are alike". To an extent therefore attitudes toward the disabled compare with attitudes to any minority group including a stereotype of the group. The able-bodied regard the disabled as having different personality traits, moral characteristics, social abilities, and political attitudes (Comer and Piliavin, 1975; Weinberg, 1976). Further, as Wright (1960) pointed out there is reason to believe that a negative evaluation of a disability spreads to affect the evaluation of other unimpaired characteristics. For example, a person in a wheelchair may also be regarded as mentally deficient.

A basic problem in this field is the need for better instruments for measuring attitudes toward disabled persons. Measures used in past research include the Attitude Toward Disabled Persons scale or ATDP (Yuker, Block and Youngg, 1966), semantic differential scales (e.g. Rapier, Adelson, Carey and Croke,

1972), preference rankings for pictures of physically disabled children (e.g. Richardson, 1972) and a variety of behavioural measures (e.g. Langer, Fiske, Taylor and Chanowitz, 1976). No measure is universally accepted. The instrument chosen for this study was the ATDP. It attempts to measure the extent to which respondents perceive the disabled as different and to some extent inferior and disadvantaged.

1.2 ATTITUDE CHANGE

The attitude change procedures which have received most attention are contact between the disabled and non-disabled, provision of information about disabled people and disability to the non-disabled, and combinations of both contact and information. A recent review of studies on changing attitudes toward the physically disabled has been provided by Donaldson (1980).

The effect of contact is inconsistent with some studies showing more positive attitudes but others finding no change or even more negative attitudes. Donaldson described three characteristics common to contacts which produced more positive changes in attitudes.

1. The experience with the disabled must be carefully controlled and structured.

2. The disabled persons must have at least equal status in relation to the non-disabled persons.

3. The disabled persons must not act in a stereotypic manner.

The effect of these characteristics is to minimise perceived differences between disabled and non-disabled. If the contact does not meet any of these conditions but is simply

casual, social or professional contact, the possibility of negative or aversive social interaction remains, which would not lead to a more positive attitude shift. On the other hand the more conditions that are favourable, the greater is the likelihood that positive attitudes will result from the contact.

Assuming that the conditions of contact are favourable, Donaldson suggests that improved attitudes can be produced in a relatively short period of time without the opportunity for personal relationships between disabled and non-disabled individuals to develop. Evidence for this suggestion is found in the significant positive shifts in attitude produced by 45 minute live and videotaped presentations of disabled people by Donaldson and Martinson (1977); by the 17 minute videotape of a successfully rehabilitated person with quadriplegia by Sadlick and Penta (1975); by the structured personal interview between a disabled and non-disabled person used by Evans (1976) and by the relatively brief exposures to disabled persons afforded in the study by Langer, Fiske, Taylor and Chanowitz (1976). It should also be noted that positive effects on attitudes were produced by media exposure to disabled people in the studies of Donaldson and Martinson (1977) and Sadlick and Penta (1975). Such findings are contrary to previous views on this subject. For example, Yuker (1976) in an extensive discussion of the characteristics of favourable contact with the disabled indicated that interaction that was

frequent, direct and personal, friendly, co-operative and aimed at a common goal would result in more positive attitudes. Thus Donaldson's suggestion must be regarded as tentative at this stage.

Studies of the effect of information provision on attitudes toward the physical disabled do not have information as an isolated variable. At best it is confounded with the personalities of both the instructor and recipients of the information. Further, the content of the message varies as does the medium through which it is conveyed.

Forader (1970) assessed effects on the attitudes of high school students of a single, factual, educational communication by a non-disabled presenter using live, video and audio modalities. Results indicated no significant modification of attitudes with any of the presentation modalities. Perkins Karniski (1978) found that an increased knowledge of the physically disabled significantly improved the attitudes of 6th grade children toward them. In both studies the information variable was isolated to a relatively large extent. However the results are contradictory and so no definite conclusion about the effect of limited information on attitudes to the disabled can be drawn. There is the danger that factual knowledge of disabilities will increase awareness of objective differences between the disabled and non-disabled.

Yerxa (1971), who provided information in a dyadic, self-instructional program in which theoretical psychodynamic reasons for holding negative attitudes were discussed between two non-disabled participants, found positive attitude formation.

Two studies have assessed the effect of the simulation of disabling conditions on attitudes, yielding equivocal results. Wilson and Alcorn (1969) tested the effects of the simulation of a disability for an 8 hour period and found no significant changes in attitude. Clore and Jeffrey (1972) found that persons who role played disability and those who observed role playing of disability developed significantly more positive attitudes toward the disabled than did those in a control group. Comparison of the two studies suggests that simulation of disabilities can be effective in the modification of attitudes but that the simulation should be done in a manner that allows the role player to observe reactions of non-disabled persons. Clore and Jeffrey concluded that role playing, both actual and vicarious, seemed to result in increased mutual understanding and increased mutual attraction which they attributed to the concept of empathy.

It is apparent that both contact and information can have positive effects on attitudes but that the effects are complex and not always positive. However, as pointed out by Anthony (1972) and Yuker (1976), the research indicates that

when contact and information are combined, positive attitude changes always seem to occur. Anthony (1969) studied the attitudes of new camp counsellors at a summer camp for disabled children. The camping experience provided information conveyed by professionals as well as continuous contact. After the camp the counsellors had significantly improved attitudes toward the disabled. Lazar, Gensley and Orpet (1971) conducted a special instructional program for 8 to 10 year old, intellectually gifted children in which disabled adults visited the class as guest speakers; positive attitude change resulted. Cohen (1978) improved attitudes by combining direct contact in supportive, integrated settings with a curricular approach to the understanding of disabilities and disabled people. Jones, Sowell, Jones and Butler (1981) investigated the effect of a program of simulations, interactions with disabled people and discussions on 7 to 9 year old children's perceptions of the disabled. Significant positive changes in the children's perceptions were produced. These studies demonstrate the effectiveness of combined contact and information in producing more favourable attitudes.

In almost all of the experimental studies on changing attitudes towards the disabled the posttest is administered soon after the intervention program is finished. In these circumstances no information is obtained on the persistence of the attitude change over time. Three studies administered a second posttest after a period had elapsed. Clore and Jeffrey (1972) found that

the positive change induced after role playing was still present after 4 months. Sadlick and Penta (1975) found that the significant improvement in student nurse's attitudes after viewing a film of a successfully rehabilitated disabled person still persisted after 10 weeks. On the other hand Westervelt and McKinney (1980) found that the positive attitudes produced in 4th grade children after viewing a film depicting children in wheelchairs participating in activities with non-disabled children were not apparent after 9 days. Thus no firm conclusions can be drawn regarding the permanence of the attitude changes produced by experimental interventions.

Although a variety of populations and methodologies have been used to study the effect of procedures on modifying attitudes toward the disabled, the conclusions presented appear to be generally applicable.

1.3 HYPOTHESES

The present study sought to determine the effect of theatre on improving children's attitudes toward the physically disabled. A play depicting disabled persons can provide a favourable, structured presentation of simulated disabled people, vicarious role playing for the audience as well as information about disability. Thus viewing a play was one independent variable. Other independent variables to be tested were a curriculum kit on disability and a talk by a disabled speaker. The specific hypotheses to be tested are as follows.

1. The play, kit and disabled speaker will each produce positive changes in the attitudes of the children in the study toward the physically disabled.

2. There will be no interaction between the play, kit and speaker with regard to their effects on changing the children's attitudes towards the disabled.

Several studies such as those reported in Yuker et. al., 1966 have found, using the ATDP, that females tend to show a more positive attitude and acceptance of the physically disabled than do males. However it has been suggested (Donaldson and Martinson, 1977) that the sex differences may tend to disappear when males are exposed to disabled persons in a controlled or favourable situation and are given information about disabilities. This study also investigated the sex differences both before and after the experimental treatments.

2.0 METHOD

2.1 SUBJECTS

The participants in the study were Year 7 non-disabled children attending secondary schools in the eastern suburbs of Melbourne. The sample contained 150 boys and 174 girls.

Seven schools took part in the study. Five were included as they had applied to see the play. The remaining two were selected as a result of previous contact with them. Intact classes were used. There were two classes from each school with the exception of two schools who provided three classes.

2.2 INSTRUMENT

As previously indicated the Attitude Toward Disabled Persons scale (ATDP) Form O (Yuker et. al. 1966) was used as the dependent measure. Extensive analysis of the validity and reliability of the scale was carried out by its originators but Feinberg, 1967 and Scott and Rohrbach, 1977 believe it can be confounded with social desirability. This potential limitation was not considered serious in this study due to the age group of the subjects.

The ATDP, Form O is a Likert-type scale containing 20 items. Respondents have to indicate the extent of their agreement with each item by marking a number from -3 to +3. In this study the numbers were removed from the scale to simplify the procedure for the children. A copy of the scale is included in Appendix I.

As there is no published information on the use of the ATDP in Australia it was trialled with a class of Year 7 children. As there were no problems with administration and the results of an item analysis were satisfactory, the scale was considered suitable for use with this population.

In this study a score which is high in relation to others is interpreted to indicate that the respondent sees the disabled person as being relatively similar to non-disabled persons. A low score is interpreted as a negative attitude.

2.3 DESIGN

An experimental pre and posttest design was used. The study had a 2x2x2 factorial structure with the play, curriculum kit and disabled speaker as the factors. There were therefore eight experimental groups including the control group which received only the pre and posttest. Two classes were allocated to each group to fit in with the prearranged visits of the theatre team to the schools. Such a design is referred to by Campbell and Stanley, 1963 as the non-equivalent control group design. Sex differences on the pretest and in the change between pretest and posttest were determined within this design.

2.4 MATERIALS

The play was an Australian adaptation of Roy Kift's "Stronger than Superman". It sets up some common myths and fallacies about the disabled and then explodes them. The play depicts Mark, an intelligent boy of twelve who has spina bifida. His disability confines him to a wheelchair, restricting both him and his family. When the family move to a new area, the boy meets the problems faced by disabled people everywhere. The "world" seems to lack an understanding of his disability. His disenchantment grows until he makes a new friend, Kevin. Sceptical at first, Kevin overcomes his fears and forms a strong bond with Mark. Together with Mark's ten year old sister Paula, the three set out to challenge the ignorance and prejudice so frequently found in society. The play lasted for one hour and forty five minutes.

The curriculum kit presented factual information on disabilities and case histories of disabled persons coping with their lives. The kit also examined community prejudices against disabled people and the need to overcome them. It also contained suggested activities such as role playing. Class teachers selected and taught four approximately 40 minute lessons from the kit. The lessons were spread over a period of one week.

The disabled speaker was a twenty nine year old female confined to a wheelchair as a result of polio. She talked for twenty minutes and answered questions for about forty minutes. She talked comfortably about her own disability. She also discussed the problems which negative society attitudes produce for disabled people. Her talk tried to convey that disabled people are capable of being independent and of contributing positively to the community.

2.5 PROCEDURES

The experiment required the participants to take part in three phases. The initial phase consisted of pretesting each group on the ATDP. This procedure was carried out by the class teachers who had previously been instructed on how to administer the scale.

After the pretest arrangements were made for each group to participate in the activities of their particular experimental condition. These conditions began two or three days following the pretest. When more than one activity was involved the order of presentation of the activities was the play first, followed by the curriculum kit, followed by the visit from the disabled speaker.

The third phase was posttest administration of the ATDP to each group by the class teacher. This phase occurred one week after the last activity of each experimental condition. The interval of one week was chosen to allow the more durable aspects of the attitude change for each activity to be determined.

The total time between pre and posttesting varied from nine to thirteen days depending on the activities of the group. The experimental work was done in the period from 6th July to 20th August 1981.

2.6 STATISTICAL ANALYSIS

The differences between the pretest and posttest were analysed using a four way analysis of covariance with the play, kit, speaker and sex as factors and the pretest as covariate. A one way analysis of variance of the pretest scores by sex and a four way analysis of variance of the posttest scores by play, kit, speaker and sex were carried out. Hypotheses were tested at the .05 significance level.

3.0 RESULTS

The mean changes between the pretest and posttest on the ATDP for each experimental group are shown in Table 1. As the number of males and females in each group varies, the data in Table 1 are the averages of the separate averages for males and females. The results in Table 1 were analysed by analysis of covariance such that the factors and covariates were assessed concurrently and then interactions. The analysis is presented in Table 2 and indicates a significant difference between males and females but no interaction between sex and any other factor. For this reason the presentation of the data in Table 1 was considered the most informative way to illustrate the effects of the experimental variables.

Table 1. Means changes between the pretest and posttest on the ATDP.

	Speaker		No speaker	
	Kit	No Kit	Kit	No Kit
Play	8.8 (m-25, f=9) 1.	13.7 (m=16, f=20) 2.	8.9 (m=23, f=14) 5.	9.3 (m=19, f=23) 6.
No Play	3.9 (m=12, f=30) 3.	1.8 (m=11, f=27) 4.	5.1 (m=19, f=22) 7.	1.5 (m=23, f=29) 8.

m = number of males, f= number of females.

As expected the group which received neither the play, kit nor speaker (cell 8) has the smallest increase in ATDP score between pretest and posttest. When the play, kit or speaker is introduced, either singly (cells 6, 7 and 4 respectively) or in combination (all other cells), the increase in score becomes larger. It is also evident that the largest effect is due to the play and the smallest to the speaker.

Table 2. Analysis of covariance of the differences between pretest and posttest scores by play, kit, speaker and sex with the pretest as covariate.

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Main Effects					
Play	3368.4	1	3368.4	24.92	.001
Kit	96.9	1	96.9	.72	.398
Speaker	9.1	1	9.1	.07	.795
Sex	1396.7	1	1396.7	10.33	.001
Pretest (Covariate)	4987.2	1	4987.2	36.89	.001
Two way Interactions					
Play Kit	640.3	1	640.3	4.73	.030
Play Speaker	4.3	1	4.3	.03	.858
Play Sex	2.7	1	2.7	.02	.887
Kit Speaker	262.0	1	262.0	1.94	.165
Kit Sex	462.5	1	462.5	3.42	.065
Speaker Sex	192.7	1	192.7	1.43	.233
Three way Interactions					
Play Kit Speaker	40.9	1	40.9	.30	.582
Play Kit Sex	134.9	1	134.9	.30	.319
Play Speaker Sex	51.3	1	51.3	.38	.538
Kit Speaker Sex	496.9	1	496.9	3.68	.056
Four way Interactions					
Play Kit Speaker Sex	1.5	1	1.5	.01	.916
Residual	41230.3	305	135.2		

Table 2 indicates that there are significant main effects for the play $F\ (1,305) = 24.95$, $p < .05$, the pretest $F\ (1,305) = 36.89$, $p < .05$ and sex $F\ (1,305) = 10.33$, $p < .05$ but no significant effects for the kit $F\ (1,305) = .72$, $p > .05$ or the speaker $F\ (1,305) = .07$, $p > .05$.

The results with regard to the play, kit and speaker may be interpreted by further examination of Table 1. In all cases where equivalent groups saw the play, the play resulted in an increased score. This finding is illustrated by comparing cells 1 and 3, 2 and 4, 5 and 7, and 6 and 8. On the other hand neither the kit (comparing cells 1 and 2, 3 and 4, 5 and 6, 7 and 8) nor the speaker (comparing cells 1 and 5, 3 and 7, 2 and 6, 4 and 8) consistently resulted in an increased score when the other two factors were held constant.

The analysis of covariance also indicates that the only significant interaction is between the play and the kit, $F\ (1,305) = 4.73$, $p < .05$. This result may be interpreted by examination of Table 3 which shows the mean pretest and posttest differences for the play and kit after pooling the speaker and no-speaker conditions. The interaction is evident in both the speaker and no-speaker conditions but the pooled data are provided as an aid in interpretation.

Table 3. Differences between the pretest and posttest means on the ATDP after pooling the speaker and no-speaker results.

	Kit	No Kit
Play	8.6	11.3
No Play	5.1	1.7

As both the play and the kit have individual effects, it would be expected that together they would have an even greater effect. However Table 3 indicates that the greatest effect is produced by the play without the kit. Thus although the play always improves the ATDP score, its effect is greatest without the kit.

The mean pretest scores on the ATDP for males was 83.3 and for females, 89.6. The analysis of variance in Appendix II indicated that these scores were significantly different, $F(1,320) = 11.0$, $p < .05$.

The analysis of variance of the posttest scores shown in Appendix III indicated that there was a significant main effect for sex $F(1,306) = 24.09$, $p < .05$. The mean posttest scores for males on the ATDP was 88.8 and for females, 96.8.

4.0 DISCUSSION

The results indicate that the play "Stronger than Superman" was very effective in improving non-disabled children's attitudes toward the physically disabled as measured by the ATDP. How can this finding be explained? The play can be considered a form of contact with the disabled although, in fact, able-bodied actors played the parts of disabled people. The contact was controlled and structured, the disabled people had equal status with their Year 7 audience, and they belied social stereotypes. Thus the contact through the play has Donaldson's (1980) favorable characteristics. Further, the play portrays disabled and non-disabled interacting in family and friendship situations where close personal relationships are involved, and the disabled and non-disabled are working toward common goals. As already indicated Yuker (1976) included such interactions among those that can produce more positive attitudes toward the disabled. The audience lived these interactions vicariously and Clore and Jeffrey (1972) found that vicarious role playing of disabled people developed more positive attitudes in the observers. Clore and Jeffrey attributed their finding to the concept of empathy which leads to increased mutual understanding and attraction. The author of the play, by his sympathetic portrayal of the lives of disabled people, displays understanding of their situation. This understanding may be transferred through the actors to the audience by way of empathy. Expressed in another way the play provides an example of peer modelling

which is likely to influence the young adolescents in this study. The play depicts Mark's sister Paula and his friend Kevin both of whom accept Mark despite his disability. They thus provide accepting peer models with whom the audience could identify. In summary, it appears that "Stronger than Superman" has a strong influence particularly on the emotional component of attitudes. It seems to communicate that on this level the disabled are no different from the non-disabled. In theory any such increase in perceived similarity should result in more favourable attitudes toward the disabled.

The four lessons from the curriculum kit improved the children's attitudes toward the disabled but not to a statistically significant extent. In view of the contradictory results of previous studies on the effects of information on attitudes this result is not particularly surprising. It is possible that four lessons were not sufficient to produce a significant effect. However the cognitive orientation of a curriculum kit may not be appropriate to increase awareness of the similarity of disabled and non-disabled people.

The disabled speaker also improved the children's attitudes toward the disabled but the change was small and did not reach statistical significance. The reason for this result is possibly that the contact period was too short. The speaker gave a 20 minute talk and then answered questions for another 40 minutes. Another possible reason is that the students'

questions may not have been appropriate to allow the speaker to convey the similarity between disabled and non-disabled people. In fact the situation may have increased the awareness of objective differences between the disabled and non-disabled. The speaker was older than the students and so higher in status according to Donaldson (1980). However for young adolescents it may be that a peer would have had a greater influence.

The results indicate a significant interaction between the play and curriculum kit such that the kit reduced the effectiveness of the play. This finding is unexpected as both the play and the kit separately have a positive effect. It is also surprising in the light of previous research which seems to indicate that contact and information are mutually enhancing. What considerations could account for the interaction? It may be that, although the kit improved attitudes toward the disabled to some extent, its primary effect was to increase knowledge about disability. Such knowledge includes the limitations of the physically disabled. The play, on the other hand, appeals to the emotions. It is dramatic and consequently may improve attitudes to an unrealistic extent. The use of the kit, following the play, may tend to return attitudes to a more realistic level which is still considerably more positive than existed prior to the pretest. This hypothesis suggests that the play has an "overshoot" effect which the curriculum kit

tempers with objective reality. Whatever the explanation for the interaction, the result indicates that contact and information cannot be indiscriminately combined if the optimal effect on attitudes is to be obtained. Further research is necessary to determine the types and amounts of contact and information which when combined will produce the most favourable attitudes toward the disabled.

The finding of significant differences between male and female subjects on the pretest administration of the ATDP confirms previous research results which indicate that females have more positive attitudes toward the disabled than males. However, as the mean posttest score for females was higher than that for males and as the analysis of variance of posttest scores indicated a significant main effect for sex, this study also indicates that females improved more than males in their attitudes. Thus not only did the females begin with more positive attitudes, they also responded more to the attempts to improve attitudes. Such a finding contradicts the suggestion of Donaldson and Martinson (1977) that initial sex differences may disappear when males are provided with favourable contact with and information about the disabled. Before drawing firm conclusions on this matter it is well to remember that the duration of the intervention in this study was relatively short. It may be that initial sex differences would disappar if males had more prolonged favourable exposure to the disabled.

What are the implications of this study for practice? The play "Stronger than Superman" is very effective in improving children's attitudes toward the disabled. As such it has great potential to aid in the integration of disabled children in regular schools. However, as a theatrical production, it is not a fixed item which is easily transportable and so its audience is necessarily limited. Although numerous performances of the play have been given, only a small proportion of students who could benefit from it have had the opportunity to see it. Feasible ways to widen its influence would be distribution of copies of the play for use in schools and or the production of a film based on the play.

The curriculum kit would probably require revision and more prolonged use to make it more effective. A revision could include more simulation games and an emphasis on the abilities of the disabled rather than disabilities in the abstract.

For the disabled speaker to be more effective some modification of the format and content of the speech would seem to be necessary. It may be helpful if the speaker could be a peer of the audience and if the content of the speech placed emphasis on the abilities rather than the disabilities of the disabled.

APPENDIX I

OFFICE USE ONLY	
GROUP	1
STUDENT	2-3
TIME	4

SCHOOL .....

NAME .....

CLASS ..... DATE .....

ATDP SCALE

By ticking the appropriate box indicate how much you agree or disagree with each of the statements about disabled people. Please answer every item.

	I disagree very much	I disagree pretty much	I disagree a little	I agree a little	I agree pretty much	I agree very much	
1. Parents of disabled children should be less strict than other parents.	☐	☐	☐	☐	☐	☐	5
2. Physically disabled persons are just as intelligent as non-disabled ones.	☐	☐	☐	☐	☐	☐	6
3. Disabled people are usually easier to get along with than other people.	☐	☐	☐	☐	☐	☐	7
4. Most disabled people feel sorry for themselves.	☐	☐	☐	☐	☐	☐	8
5. Disabled people are the same as anyone else.	☐	☐	☐	☐	☐	☐	9
6. There shouldn't be special schools for disabled children.	☐	☐	☐	☐	☐	☐	10
7. It would be best for disabled persons to live and work in special communities.	☐	☐	☐	☐	☐	☐	11
8. It is up to the government to take care of disabled persons.	☐	☐	☐	☐	☐	☐	12
9. Most disabled people worry a great deal.	☐	☐	☐	☐	☐	☐	13
10. Disabled people should not be expected to meet the same standards as non-disabled people.	☐	☐	☐	☐	☐	☐	14
11. Disabled people are as happy as non-disabled people.	☐	☐	☐	☐	☐	☐	15
12. Severely disabled people are no harder to get along with than those with minor disabilities.	☐	☐	☐	☐	☐	☐	16
13. It is almost impossible for a disabled person to lead a normal life.	☐	☐	☐	☐	☐	☐	17
14. You should not expect too much from disabled people.	☐	☐	☐	☐	☐	☐	18
15. Disabled people tend to keep to themselves much of the time.	☐	☐	☐	☐	☐	☐	19
16 Disabled people are more easily upset than non-disabled people.	☐	☐	☐	☐	☐	☐	20
17. Disabled persons cannot have a normal social life.	☐	☐	☐	☐	☐	☐	21
18. Most disabled people feel that they are not as good as other people.	☐	☐	☐	☐	☐	☐	22
19. You have to be careful of what you say when you are with disabled people.	☐	☐	☐	☐	☐	☐	23
20. Disabled people are often grouchy.	☐	☐	☐	☐	☐	☐	24

Appendix II

Analysis of variance of pretest scores by sex.

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Main Effects					
Sex	3260.7	1	3260.7	11.0	.001
Residual	94839.4	320	296.4		
Total	98100.1	321	305.6		

Appendix III

Analysis of variance of posttest scores by play, kit, speaker and sex

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Main Effects					
Play	3852.3	1	3852.3	13.11	.001
Kit	436.7	1	436.7	1.49	.224
Speaker	370.1	1	370.1	1.26	.263
Sex	7077.3	1	7077.3	24.09	.001
Two way interactions					
Play Kit	720.72	1	720.72	2.45	.118
Play Speaker	1645.16	1	1645.16	5.60	.019
Play Sex	413.71	1	413.71	1.41	.236
Kit Speaker	1199.90	1	1199.90	4.08	.044
Kit Sex	885.83	1	885.83	3.02	.083
Speaker Sex	290.05	1	290.05	.99	.321
Three way interactions					
Play Kit Speaker	36.04	1	36.04	.12	.726
Play Kit Sex	2141.33	1	2141.33	7.29	.007
Play Speaker Sex	117.26	1	117.26	.40	.528
Kit Speaker Sex	1732.22	1	1732.22	5.90	.016
Four way interactions					
Play Kit Speaker Sex	117.66	1	117.66	.40	.527
Residual	89897.43	306	293.78		

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